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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Telephone Number Portability) CC Docket No. 95-116
)

TO: Chief, Wireless Telecommunications Bureau

COMMENTS OF AT&T WIRELESS SERVICES, INC.

AT&T Wireless Services, Inc. ("AT&T"), by its attorneys, hereby submits its comments on the Petition for Extension of Implementation Deadlines ("Petition") filed by the Cellular Telecommunications Industry Association ("CTIA") on November 24, 1997.¹ As the Commission has repeatedly recognized, local number portability ("LNP") is critically important to the development of local exchange competition, as well as to the achievement of the other goals of the Telecommunications Act of 1996.^{2/} Although postponement of any aspect of the Commission's LNP implementation schedule should not be undertaken lightly, AT&T agrees that because of technical problems unique to the wireless industry, wireless carriers will not be able to meet the Commission's June 30, 1999 deadline to implement LNP in their networks. Accordingly, AT&T urges the Wireless Telecommunications Bureau ("Bureau") to exercise the

¹ See Public Notice, Wireless Telecommunications Bureau Seeks Comment on CTIA Petition for Waiver to Extend the Implementation Deadlines of Wireless Number Portability, CC Docket No. 95-116, DA 97-2579 (rel. Dec. 9, 1997).

^{2/} See, e.g., Telephone Number Portability, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8352 ¶¶ 27-31 (1996), ("First Report and Order").

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authority delegated to it by the Commission to waive or stay the LNP implementation date for nine months.

INTRODUCTION

In 1996, the Commission adopted rules requiring the implementation of LNP for both LECs and wireless providers.³ Recognizing that the technical obstacles facing the wireless industry associated with such implementation are much more complicated than those encountered by wireline carriers, the Commission delegated to the Chief of the Wireless Telecommunications Bureau the authority to “waive or stay the implementation dates for a period of up to nine months.”⁴ While AT&T and other wireless providers have been working diligently to implement LNP, even before the Commission established the June 30, 1999 deadline, resolving certain technical problems will require additional time.⁵ Grant of CTIA’s extension request would serve the public interest by ensuring that the industry is able to establish a long-term solution that works properly for all carriers.

I. ADDITIONAL TIME IS NECESSARY TO IMPLEMENT WIRELESS LNP

As set forth in the attached declaration of Carol H. Peters, AT&T’s lead engineer for the wireless LNP project, to implement LNP, wireless providers, unlike wireline carriers, must alter the fundamental model by which services are delivered to customers.⁶ To preserve existing wireless registration and roaming record reconciliation processing, which are essential to the wireless call processing paradigm, wireless carriers must establish multiple identifiers in place of

³ See id.

⁴ Id., 11 FCC Rcd at 8440-41.

⁵ CTIA Petition at 2.

⁶ Declaration of Carol H. Peters at ¶ 4 (Jan.8, 1998) (attached hereto) (“Peters Declaration”).

the single Mobile Identification Number (“MIN”) used today.⁷ Currently, the MIN serves as both the handset-number for call termination and the mobile station identifier for mobile applications but, to support LNP, the MIN must be split into a Mobile Directory Number (“MDN”) and a Mobile Station Identifier (“MSID”).⁸ This change must be made for both ported and non-ported subscribers.

While the wireless industry has determined that splitting the MIN in this manner is the most effective way to implement LNP, the split itself raises a number of issues that require further study or action on the part of CMRS providers. In particular:

- The Telecommunications Industry Association (“TIA”) Interim Standard (“IS”) 41 standards committee must investigate each and every IS-41 protocol message to determine whether the MSID, the MDN, or both should be included in the message. IS-41 is the signaling protocol used by TDMA and CDMA providers to communicate among various network elements.
- Wireless providers that plan to port subscribers must upgrade all network nodes and test all call scenarios for subscribers with MSIDs of a different value than the MDN, per the above standards decisions as well as in proprietary service implementations.
- Wireless providers that do not plan to port subscribers but currently participate in roaming agreements must upgrade a subset of the network to recognize roaming subscribers with a MSID of a different value than the MDN.
- The wireless industry must establish a new process for administering MSIDs separate from the North American Numbering Plan (“NANP”) administration.
- All wireless providers must make the necessary modifications to adapt to the process of obtaining MDNs (Central Office Codes) from the NANPA and MSIDs via a separate administrative body and process.
- Each carrier must enhance number inventory systems and procedures to assign and manage efficiently MSIDs as separate from MDNs.⁹

⁷ Id.

⁸ Id.

⁹ Id. at ¶ 9.

Like the other wireless carriers participating in industry LNP fora, AT&T recognizes its responsibility to implement wireless LNP. Nevertheless, as the foregoing demonstrates, the only solution available to accomplish the implementation has raised unique and difficult technical issues for the wireless industry. Each proposed solution to these new obstacles must be thoroughly tested and, upon testing, it may be determined that another route is required in order to maintain necessary wireless call processing features. Accordingly, AT&T supports CTIA's request for an extension of the deadline by which wireless carriers must implement LNP, during which time it will continue to seek the answers to the difficult technical questions posed by the Commission's mandate.

II. EXTENDING THE WIRELESS LNP DEADLINE WOULD SERVE THE PUBLIC INTEREST

Even if it were possible to implement LNP in accordance with the Commission's June 30, 1999 deadline, requiring the wireless industry to alter radically the paradigm upon which call processing is based without a sufficient trial period would cause more problems than it would solve. For example, as CTIA points out, supporting both nationwide roaming and number portability under the current implementation schedule is not feasible because of the technical difficulties in providing automatic roaming for ported numbers.¹⁰

The Commission's LNP orders require wireless carriers to offer service provider portability throughout their networks, "including the ability to support roaming," by June 30,

¹⁰ CTIA Petition at 6-7.

1999.¹¹ A regime of automatic roaming is nearly ubiquitous throughout the United States today and most customers would agree that the ability to roam automatically on other wireless systems is an essential feature of their wireless service.¹² Indeed, a CMRS provider that did not offer automatic roaming to its subscribers would not be able to compete effectively in the global marketplace that exists today. For this reason, the number portability solution chosen by wireless industry will ensure that wireless customers will continue to be able to use their telephones everywhere.¹³

That being said, implementing this solution in a manner that adequately maintains the current quality of automatic roaming will require numerous system upgrades to recognize the separation of the MDN from the MSID.¹⁴ Although LNP initially is required only in the top 100 Metropolitan Statistical Areas, all carriers, even those in smaller markets, will have to perform these upgrades if they participate or want to participate in automatic roaming agreements. If a wireless provider fails to alter its network properly, it will not be able to recognize the MDN of a

¹¹ First Report and Order 11 FCC Rcd at 8440; Telephone Number Portability, CC Docket No. 95-116, RM-8535, First Memorandum Opinion and Order on Reconsideration, FCC 97-74, at ¶ 127 (rel. March 11, 1997).

¹² As AT&T explained in comments filed in the Commission's roaming docket, AT&T's PCS affiliate has had difficulty obtaining in-market automatic roaming agreements from incumbent cellular providers. Additional Comments of AT&T Wireless Services, Inc. CC Docket. No. 94-45 (filed Jan. 5, 1998). Nevertheless, with the exception of these recent anticompetitive actions, most carriers have freely entered into automatic roaming agreements with any requesting wireless carrier.

¹³ See CTIA Petition at 6 ("By separating the MIN from the MDN, the industry has ensured that nationwide roaming will remain in effect.")

¹⁴ Peters Declaration at ¶ 8.

ported subscriber that attempts to register on its system. That customer will not be able to roam if the carrier recognizes only the MSID provided through the air interface.¹⁵

Wireless LNP is a challenge for the largest carriers, but will be even more difficult and cost prohibitive for smaller providers. As explained above, however, very few carriers, large or small, will be able to opt out of the regime if it is to work properly for the industry as a whole. Accordingly, AT&T respectfully requests that the Bureau grant CTIA's request for an extension of time for the wireless industry to implement LNP in an orderly and comprehensive fashion.

CONCLUSION

For the foregoing reasons, the Bureau should grant the wireless industry a nine-month extension of time in which to implement wireless LNP.

Respectfully submitted,

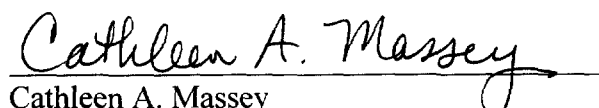
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¹⁵ Id.

DECLARATION OF CAROL H. PETERS

I, Carol H. Peters, do hereby declare as follows:

1. My name is Carol H. Peters. My business address is

AT&T Wireless Services, Inc.
P. O. Box 97061
164th Avenue NE
Redmond, Washington 98073

I am employed by AT&T Wireless Services, Inc. as Senior Member of Technical Team. I have served in this position since February 12, 1996.

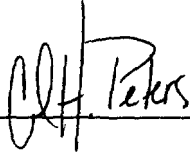
2. My responsibility is as the network architecture lead engineer for the Local Number Portability ("LNP") project. This responsibility includes designing the AT&T Wireless Services network and services to accommodate LNP in accordance with the FCC mandate and participating with vendors and other wireless service providers in LNP industry meetings in order to achieve favorable common solutions.
3. To support LNP, both wireline and wireless carriers must implement the necessary functionality to route calls in and out of their networks via the Location Routing Number ("LRN") method. All wireline and wireless carriers must also implement the necessary Operations, Administration, Maintenance, and Provisioning ("OAM&P") system enhancements and processes to communicate with the Number Portability Administration Center Service Management System ("NPAC SMS").
4. Unlike wireline carriers, wireless providers must also alter the fundamental model by which wireless services are delivered to subscribers with ported numbers. Specifically, to preserve existing wireless registration and roaming record reconciliation processing (essential to the wireless call processing paradigm) for both ported and non-portable subscribers, wireless carriers (in particular, TDMA and CDMA providers) must move from a single Mobile Identification Number ("MIN") to multiple identifiers. Today, the MIN serves as both the telephone number and the mobile station identifier; but to support LNP, the MIN must be split into
 - a Mobile Directory Number ("MDN") that will serve as the telephone number; and
 - a Mobile Station Identifier ("MSID") that will identify the physical mobile station.

The MSID could be in the format of either a 15-digit International Mobile Station Identifier ("IMSI") or a 10-digit MIN. The MSID will be of a format that through limited digit translation easily identifies the subscriber's service provider.

5. The MDN will be the portable telephone number. The MSID (MIN or IMSI) will be programmed into the mobile station. A porting subscriber will bring the MDN to the recipient network and leave the MSID behind in the donor network (which can be used as an MSID for another subscriber). The recipient network will provide the porting subscriber with a new MSID during subscriber activation.
6. A subscriber who was activated prior to Number Portability will have only a MIN. After the implementation of LNP, if the subscriber does not port, the subscriber will have an MDN equal to the MSID equal to today's MIN. If the subscriber ports, the subscriber will bring today's MIN value as the MDN into the recipient network and will leave today's MIN value as an MSID behind in the donor network.
7. During registration (e.g., powering on a mobile station), the mobile station will supply the MSID via the air interface to the Serving Mobile Switching Center ("MSC"). Within this registration process, the home network will supply the MDN to the Serving MSC for storage in its Visitor Location Register ("VLR"). The MDN can then be used for future call delivery.
8. Because the LNP order mandates the continuance of nationwide roaming, nearly all wireless service providers must upgrade their networks to recognize the separation of the MDN from the MSID. Specifically, upgrades will be required for any service provider with existing roaming agreements whether that provider is within or outside the top 100 Metropolitan Statistical Areas ("MSA") designated for LNP. If a ported subscriber attempts to register on a Serving MSC that does not support the separation, the Serving MSC will not recognize the subscriber's MDN; the Serving MSC will only recognize the number provided via the air interface - the MSID.
9. The impact on wireless providers in moving from one to multiple identifiers are as follows:
 - The Telecommunications Industry Association ("TIA") Interim Standard ("IS") 41 standards committee must investigate each and every IS-41 protocol message to determine whether the MSID, the MDN, or both should be included in the message. IS-41 is the signaling protocol used by TDMA and CMDA providers to communicate among various network elements.
 - Wireless providers that plan on porting subscribers must upgrade all network nodes and test all call scenarios for subscribers with MSIDs of a different value than the MDN, per the above standards' decisions as well as in proprietary service implementations.
 - Wireless providers that do not plan on porting subscribers but currently participate in roaming agreements must upgrade a subset of the network to recognize roaming subscribers with a MSID of a different value than the MDN.
 - The wireless industry must establish a new process for administering MSIDs separate from the North American Numbering Plan ("NANP") administration.

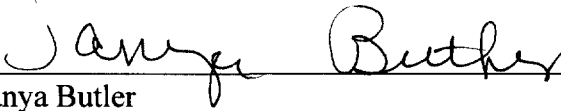
- All wireless providers must make the necessary modifications to adapt to the process of obtaining MDNs from the NANPA and MSIDs via a separate administrative body and process.
 - Each carrier must enhance number inventory systems and procedures to assign and manage efficiently MSIDs as separate from MDNs.
10. In summary, changing from today's MIN to a MDN and a MSID impacts almost all aspects of wireless call processing, customer care and activation, operations, billing, and roaming. Even though the wireless industry has been working diligently to implement number portability by the June 30, 1999 deadline, an additional nine months will be necessary to resolve all the uniquely wireless issues associated with such implementation.

I declare that the foregoing is true and correct to the best of my knowledge.

SIGNATURE:  DATE: January 8, 1998

CERTIFICATE OF SERVICE

I, Tanya Butler, certify that on this 9th day of January, 1998, a copy of the foregoing "Comments of AT&T Wireless Services, Inc." was served on the following parties by first class, postage prepaid mail or messenger (*):


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